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ABSTRACT

At Colorado Northwestern Community College (CNCC), all educational programs, as well as student services and support functions, are formally reviewed/evaluated in depth at least once every five years. This nine-part outline, providing a step-by-step description of the program review process at CNCC, includes the following sections: (1) the value of program review and evaluation in maintaining educational excellence; (2) a definition of the term "program"; (3) a list of the 10 objectives of program review; (4) the program review process, including sub-sections on the master schedule, program self-study, program review committee, analysis of program review by administrative cabinet, president's report to the board of trustees and to state agencies, and data collection and application in the program review process; (5) performance criteria for the assessment of quality, which reviews the need for the program, productive delivery of program activities/services, effective use of program resources, cost efficiency, program outcomes, unique features of successful instructional programs, and special criteria; (6) a time line for program reviews; (7) a status report to respond to the program review; (8) oversight responsibility for program reviews; and (9) guidelines for program review reports. Appended are copies of two completed CNCC program reviews, one evaluating the records office, and the other evaluating the Aviation Technology program. Both reports examine the need for the program, productive delivery of services, effective use of program resources, cost efficiency, and program outcomes, and conclude with a series of recommendations. (PAA)

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# PROGRAM REVIEW/EVALUATION POLICY AND PROCEDURES

1991

Colorado Northwestern Community College
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Program Review/Evaluation Policy and Procedures

1. Value of Program Review/Evaluation

Colorado Northwestern Community College is committed to the pursuit of excellence in higher education. Excellence in higher education can only be achieved by developing quality programs, by monitoring that quality through identifying and addressing program strengths and deficiencies, by promoting quality within each employee who serves students, by requiring the best effort of all who seek an education, and by assisting each student to discover and value his or her unique worth. Considered in this context, program review/evaluation becomes an essential, continuing process through which excellence in higher education is pursued and institutional improvement is attained. Thus, each program at Colorado Northwestern Community College shall be formally reviewed/evaluated in depth not less than once every five years.

2. Definition of Program

For purposes of this process, a program is defined as any planned sequence of educational activities, student services, or support functions which pursues a designated set of objectives and helps the institution to fulfill its missions. This definition of program encompasses, but is not limited to, all educational activities which lead to the award of a certificate of completion or an academic degree.

3. Objectives of Program Review

The overarching purpose of program review is the ongoing improvement of Colorado Northwestern Community College in the pursuit of its varied missions. Within this framework of intent, the objectives of program review are multiple:

1) To systematically ensure quality programs.
2) To assess program quality and effectiveness. Is there congruence among program objectives, program standards, program outcomes, and institutional missions?
3) To identify specific program deficiencies in order to modify services as necessary for improvement and productivity.
4) To assess program efficiency. Are the program's resources adequate and are they being utilized to best advantage?
5) To provide the information needed to make informed decisions regarding program development, maintenance, refinement, expansion, consolidation, or discontinuance.
6) To assist service units in planning professional development programs and activities.
7) To provide an adequate method for institutional resource allocation based upon identified need.
8) To determine the continuing need for the program. Are there ongoing needs within the institution and external to the college which the program continues to satisfy?

9) To determine whether long-range goals and objectives as set forth in the current CNCC Strategic Plan of Action are being attained.

10) To periodically clarify/refine the missions of the college and the Strategic Plan of Action for the fulfillment of these missions.

4. Process of Program Review

1) Master Schedule. CNCC will develop a five-year master schedule for program review. This schedule will initially encompass academic years 1990-1991 through 1994-1995 and will be updated each year to assure the continuation of a five-year plan. All essential educational activities, student services, and support functions will be targeted for review by this schedule. Occasionally, due to special opportunities, challenges, or problems, a given program may be brought forward on the schedule and reviewed earlier than was initially planned. Once the five-year master schedule is completed, a new master schedule will be developed for the years to follow. The intent is a continuing rotation of programs through formal review.

2) Program Self-Study. Once a given program is chosen in a particular year for formal review, a committee appointed for the task will conduct a self-study of the program. This self-study will be pursued following a Time Line, Criteria for Assessment, and a Report Format prescribed. The appropriate Vice President will receive the self-study as conducted by the assigned committee and cap this report with his/her own conclusions and a recommendation of status for the program.

3) Program Review Committee. Each formal program review (self-study) will be conducted by a committee especially appointed for this task. The committee will be appointed by the appropriate Vice President in consultation with the Program Director/Immediate Supervisor of the unit involved. Each committee will be constituted of three or more persons, including members engaged in the services of the program, at least one college professional not directly identified with the program, community persons, advisory council members, or others as deemed best suited to the role. The committee will be chaired by a member of the committee so designated by the Vice President. The Program Director/Immediate Supervisor will function as an Ex Officio member of the committee and, unless otherwise designated by the appropriate VP and approved by the President, will assist in acquiring the data needed for committee deliberations, in providing support for the task, and in drafting the final report. The report of the program review, however, will be undersigned by the committee as a whole.

4) Analysis of the Program Review by the Administrative Cabinet. The President, in consultation with the Administrative Cabinet, will finally sum up conclusions and recommendations regarding the program based

upon the program review (self-study) and state formally the program's status as an outcome.

5) President's Report to the Board of Trustees and to State Agencies. Based upon the Administrative Cabinet's analysis of the program review, the President will forward a report to the CNCC Board of Trustees, the Colorado Community College and Occupational Education System, and the Colorado Commission on Higher Education focusing his conclusions, his formal statement of the status of the program, and any action plan addressing the program's future which might result from the program review.

6) Data Collection and Application in the Program Review. Pertinent data for application in the program review will be drawn from numerous sources and wherever available: the records of the unit being considered, the Registrar's Office, the Learning Assistance Center, the offices of the Vice Presidents, Administrative Services, Computer Services, follow-up studies of Admissions and Marketing and Counseling and Placement, and the data banks of CCCOES and CCHE. The institutional research requirement will continue to be an important, integral, expanding part of this process.

5. Performance Criteria for the Assessment of Quality.

The several criteria described below will be used to assess the quality of college programs. These criteria require analysis of the degree to which the program:

-fulfills college missions, goals of the college's Strategic Plan, and specific program objectives;
-addresses student needs, objectives, and outcomes (or those of other clientele served by the unit);
-productively delivers activities/services of quality;
-effectively utilizes its resource allocations;
-produces outcomes of the type, extent, and quality pursued.

The criteria marked with asterisks are core criteria which every program review must use to the degree that they are applicable. The remaining criteria will be applied to educational programs and other services as they prove useful toward fulfilling the intent of the review.

*1) Need for the Program. Describe the intrinsic value of the program to the college. What broad institutional missions, particular goals of the college's Strategic Plan of Action, ideals of a vision of community college vitality like Building Communities, or specific program objectives are the program fulfilling? How does the program fit into the current college, regional, and state environments? What is the level of current student interest in the program and uses of the program? What evidences are there of the program's potential for the future? Does the program provide vital access to higher education, to cultural activities of the college and the community, or

to training or retraining by business and industry for district residents, clientele of the Service Area, or students brought in from around the state? What evidences are there of a need in our current economy and society for the products of the program? Or, if the program does not directly serve students through the delivery of educational activities, how does the program provide critical support services to students and/or faculty engaged in the formal teaching/learning enterprise? Those managing the program should have in place program objectives for the next three years, clearly related to larger institutional missions and goals, clearly cognizant of students' interests and the demand for program outcomes, clearly demonstrative of the critical support provided by the program to students, college personnel, or the community at large. Clearly establish the on-going need for the program.

*2) Productive Delivery of Program Activities/Services. Outline a brief history of the program. Describe the full range of the current activities/services of the program and the full range of the clientele served. Are the activities/services of the program congruent with the program's objectives? Are the approach of the program, the attitudes of its personnel, and the techniques and methods whereby it delivers its services congruent with the program's objectives? Does the program establish and consistently pursue strong standards of achievement? Does it require the best effort of all who seek an education within its framework? Does it assist each student to discover and value his/her own unique worth?

*3) Effective Use of Program Resources. What is the range of resources dedicated to or available for the support of the program's activities? Consider each category below, analyzing the degree to which the resources are adequate to fulfill the program's function, identifying the extent to which these resources are being effectively utilized to achieve the program's objectives.

(1) Personnel. Review the staffing pattern of the program. Is there an appropriate number of personnel dedicated to the program to achieve its goals? What are the qualifications of the personnel? Are they adequately trained for their roles? What do personnel evaluations reveal about the effectiveness of their performance?

Discuss the staff development activities of the unit over the past two years and focus the staff development plans of the unit for the near future. What evidences are there that the staff are growing in their knowledge and skills, up-grading their abilities to perform their tasks?

If the program is an instructional program, are full-time faculty utilized effectively? Describe the full span of their work loads. Are part-time faculty also utilized? Do they complement the strengths of the full-time faculty and free the career faculty somewhat to contribute to the college's enterprise in other meaningful ways?

Describe the demand which this program creates for other services, e.g., clerical support, Library, Media Services, Learning Assistance Center, Admissions and Marketing, Financial Aid, Registrar, Counseling and Placement, Computer Services, Business Services, maintenance/repair, and custodial services. Are these support functions being provided at an adequate, less than adequate, or more than adequate level to meet the needs of programs of this kind?

(2) Equipment/Resource Materials. Describe the program's equipment and resource materials. Are they adequate, less than adequate, more than adequate for programs of this type? What are the signs that they are being kept up-to-date? Do they approach state of the art? What evidences are there that they are being utilized regularly, effectively, maximally?

If an instructional program, how adequate are the curricular materials? Do they productively facilitate teaching and learning? Are library holdings, media services, laboratory equipment, computers/software, and technological supports adequate to the program's instructional activities? What is being done to keep in good repair, to prevent down time, to offset obsolescence, and to address wear out? Do the numbers of people served and the outcomes produced warrant maintenance and up-grading costs? Does the program regularly share its equipment and resource materials with the clients of other programs?

(3) Facilities. Describe the space and facilities allocated to the program's use. Do they constitute a pleasant and productive environment for the program's activities? Are they appropriately arranged and appointed to meet the needs of the program and its clients? What is their proximity to the facilities of other vital services upon which the program must depend? How could the facilities be better designed, structured, arranged, distributed, or appointed to accommodate the program's activities?

*4) Cost Efficiency. This criterion provides the basis for measuring the productivity of the program against the program's costs. It aims at profiling fiscal responsibility. It examines the relationships among the

number of clients served, the expenditures of the program, and the revenues earned back through the program's activities.

Using the most recent three years as a frame of reference, what are the indicators of the program's size and range of services? If an instructional program, how many students were attracted to the program? In program courses and in service courses, what was the full-time equivalent enrollment? What was the headcount enrollment? What was the number of majors? How many courses were offered? What was the average class size? How many credit hours were produced? How many certificates/degrees were granted?

Once the volume/range/productivity of the program is understood, then, what were the program's fiscal dimensions? What were its operating budgets? What were its typical patterns of expenditures? What were the faculty FTE's, the support staff FTE's, the student/faculty ratios, the average faculty load, and the average faculty salaries?

Within this same frame of reference, what were the program's revenues? What state funds did it draw through FTE reimbursement. What tuitions, college fees, and lab fees did it generate? Were there grants involved in its operations? Did it tap other outside-of-the college sources of financial support? Was the program able, in some way, to generate support for other programs as well?

Bottom line, what is the balance sheet? Compared to other programs of its type, how do services rendered and numbers served stack up in light of costs incurred and/or revenues generated? What are the evidences that the program was cost efficient?

*5) Program Outcomes. What are the ultimate outcomes of the program's activities/services? Does the program fulfill its objectives? How successful is the program in helping its clientele to reach the standards of achievement targeted? Does the program obviously contribute to the growth, betterment, and strengthening of those served or to the better facilitation of the roles and performances of other personnel in the organization? To what degree are clientele satisfied with services rendered? If an instructional program, do students enrolled therein get what they came for? To what degree do outcomes and/or products of the program measure up to those pursued?

6) Unique Features of Successful Instructional Programs. While assessing program quality by means of the core criteria here outlined, several unique features of successful instructional programs also emerge to help judge the quality thereof. These are here delineated as elements of criterion 6. They may or may not be applicable to programs other than those contributing to certificates or degrees.

(1) Curriculum Integration. Describe the program in terms of which courses are service, "major", community oriented, job upgrade, and basic skills. What are the relationships among the curriculum of this program, the curricula of other programs, and the total educational enterprise of the college? What service courses does this program provide for students concentrating in other programs? How many students majoring in this program regularly enroll in service courses provided by other programs? How many students majoring in this program typically fulfill prerequisites by taking courses in other programs? How many students apply courses drawn from this program to other degree options, e.g. the Associate of General Studies Degree?

(2) Student Educational Intent. Review the available data on student demographics and from any follow-up studies. Is the program actually serving the clientele intended? Are the program's objectives and student objectives consistent? Is the type, pattern, scheduling, and extent of program offerings appropriate to student needs? In occupational education, are the program completers being placed in jobs related to their training at a reasonable rate? Are there sufficient related job openings forthcoming to fulfill student intent and program objectives?

(3) Satisfactory Student Mobility. Does the program feature sufficient flexibility to accept students in transfer who bring similar curricular components from other institutions? Can it articulate learning experiences from special curricula or advance standing courses in secondary schools? Can the program facilitate the shifting of its students to other curricula in the college without undue loss of time or credit? Does the program sufficiently advance its students in life-long learning skills as to see them move into other courses with greater personal confidence and academic achievement? Can the completer of this occupational program move into related employment with confidence and success? For students ultimately pursuing the baccalaureate, is the transfer from this program into BA/BS programs normally successful without serious loss of credits, without substantially extending the total credits/time required to graduate beyond that of the native student in the senior college, or without having to repeat the content of CNCC lower division courses in upper-division courses at the four-year institution? Satisfactory student mobility is achieved by the program when the program completer can move into related employment, transfer smoothly into baccalaureate programs, or pursue his/her life goals with adequate foundations.

7) Special Criteria. While the criteria outlined above will, for most programs, provide a sound basis for assessing the program's quality, certain programs will exhibit unique features which deserve special attention. In such cases, other criteria may be developed in consultation with the appropriate vice president and articulated for purposes of investigating and assessing variables which are specific to that unit. No amount of adherence to a formal process can replace an honest effort to identify program strengths or to address program deficiencies.

6. Time Line for Program Reviews.

Once the five-year master schedule for program review is set into motion, approximately twenty per cent of the college's instructional programs, student services, and support functions will be reviewed each year. When a given program has passed through formal review, thereafter, as long as that program is on exemplary status or satisfactory status, that program's Director will only be required to forward to the appropriate Vice President a brief synopsis of goal accomplishment for each academic year. That program will not normally be formally reviewed again until it reappears in the five-year master schedule unless specifically designated for review by the President within the interim time period. If on any other status, that program's Review Committee will be required to reassess and report on the program's progress in overcoming deficiencies each year until the program has regained satisfactory status.

When a particular college program is targeted for program review in a given year, the process of review will proceed according to the following Time Line.

1) On or before September 15, the appropriate Vice President, in consultation with the Program Director/Immediate Supervisor, appoints a Review Committee and names a Chairperson to guide the Committee's work.

2) By October 15, the Review Committee convenes its first session and, as a result of this session, negotiates any further criteria with the Vice President upon which the program is to be reviewed.

3) During the remainder of the Fall Semester, the Program Director (or designee approved by the Vice President), with the assistance of the Registrar's Office and of Counseling and Career Services, surveys current students/clientele and, as appropriate, previous students/clientele in pursuit of the necessary data for program review, feeding this information to the Review Committee as it becomes available.

4) During the remainder of the Fall Semester, the Review Committee analyzes the performance of the program using the five Core Criteria and others as appropriate. The Committee begins to assemble its impressions into a rough draft of the report, pending the receipt of a more complete data package.

5) Not later than February 1, the Program Director provides the Review Committee as final and complete a Program Review Data Sheet as he/she is able to assemble. Statistical data may include, but are not limited to, past and current enrollments, student placement in jobs or successful transfers, service to the community, and client satisfaction with services.

6) Not later than April 1, the Review Committee submits the "Committee Report" and "Highlights" to the appropriate Vice President who may, in turn, involve other college personnel or community persons who are related to the program in some way in a validation of the Committee's findings before formally responding to the "Committee Report" himself.

7) Not later than May 1, the appropriate Vice President reviews the "Committee Report" and "Highlights", adds his own recommendations, caps the "Committee Report" with a "Recommendation of Status" for the program, and forwards these documents to the President in Administrative Cabinet for final review. Concurrently, the Vice President forwards copies of these documents, including his suggestions and "Recommendation of Status", back to the Review Committee and to all college personnel directly associated with the program.

   At this same time, Review Committees, whose programs received other than exemplary or satisfactory status and, therefore, remain in a condition of review, address the appropriate Vice Presidents with up-date reports on their programs' efforts to remove deficiencies. Moreover, Program Directors, whose programs are not in a condition of review, provide their Vice Presidents with annual progress reports on goals being attained.

8) Not later than June 1, following a final review of the "Committee Report" by the Administrative Cabinet, the President communicates the overall results of the program review, including his "Declaration of Status" for the program, to the CNCC Board of Trustees for their consideration in the June Board Meeting.

9) Not later than July 1, the President forwards a summary report on all programs reviewed to the State Board for Community Colleges and Occupational Education and the Colorado Commission on Higher Education. This summary report includes:

(1) Decisions made or being considered as a result of program reviews;
(2) Time lines for actions resulting from program review recommendations; and
(3) Dates of Board action concerning the outcomes of program reviews.

7. Status Report: An Institutional Response to the Program Review.
The status report provides feedback to the supervisor and personnel of the program on the conclusions reached about the program as a result of the program review. It may support the committee's findings. It may make suggestions or recommendations for improvement. It must make a statement about the program's status in one of five categories: exemplary, satisfactory, conditional, probationary, terminal. The Vice President in whose area the program falls makes the initial recommendation on status as he forwards the program review with recommendations to the President for review by the Administrative Cabinet. The President ultimately declares the status of the program as he reports the findings of the program review to the Board of Trustees.

1) The status is exemplary if the program review documents clear evidence of excellence in several features of the program's operations. This is a rare declaration of status, but when given it will be well publicized throughout the college community along with the bases upon which this judgment was reached. The program will not be formally analyzed again until the next scheduled review period in five years.

2) The status is satisfactory if the program is meeting its objectives and measures up positively to the Core Criteria with no serious deficiencies apparent therein. The program will not be analyzed again until the next scheduled review period in five years.

3) The status is conditional if there are serious deficiencies in the program's ability to meet Core Criteria. The result is an automatic assignment of the program to annual review until it can move into satisfactory status.

4) The status is probationary if the program has spent at least one year in the conditional category and yet continues to have serious deficiencies. This designation indicates an intent to terminate the

program after one year unless the deficiencies are dramatically corrected. The program continues on annual review.

5) The final category, terminal, is normally recommended only after a program has been classed as conditional for a least one year, then as probationary for at least one year, with continuing serious deficiencies. In the case of programs/services/functions which the college cannot do without, the action taken here may be that of substantial change in personnel or posture of the program rather than the termination of the program itself.

6) The appropriate Vice President forwards a recommendation on status along with the "Committee Report" to the President in Administrative Cabinet.

7) Following a final review by the Administrative Cabinet, the President ultimately declares the status of the program as he reports the findings of the Program Review to the Board of Trustees. When a program is determined to be in the final category, he will recommend termination to the Board for approval. An appeal to the Board is permitted at this time.

8) The College Administration reserves the right to recommend to the Board the termination of a program (or a drastic change in the personnel and posture of that program) under exceptional circumstances (e.g., severe and unanticipated drop in enrollment; discontinuance of funds from external sources; unprecedented client dissatisfaction with the program's services) without the program having to pass through all categories of review.

9) At any time there is a recommendation to the Board to terminate a program, or to dramatically alter the personnel or posture of a program in response to the findings of Program Review, pertinent college personnel, students, and advisory councils may make an appeal to the Board of Trustees.

8 Oversight Responsibility for Program Reviews.

A number of players are involved in successfully implementing the five-year master schedule of program review.

1) The Vice President in whose area of responsibility the program falls has oversight responsibility for Program Review. He appoints Review Committees, details specific tasks, monitors the progress of reviews, receives Committee Reports, caps these reports with suggestions and a "Recommendation of Status," and sees the review through to ultimate completion. He will guide the process from the decision to review a program to the recommendations to the President in Administrative Cabinet.

2) The Review Committee has the responsibility of conducting a meaningful self study. As an Ex Officio member of the Review Committee, the Program Director assumes the responsibilities of providing the Committee support and ultimately preparing the Committee's final report. He/she may delegate the drafting of the Report to the Review Committee Chairperson by mutual agreement. Until such time as CNCC has an Office of Institutional Research, the Program Director assumes responsibility for assembling needed data from whatever sources are useful. The Review Committee Chairperson is most often appointed from among college professionals outside of the program area. It is the Chairperson's special responsibilities to assure a fair and valid self study, to seek consensus in the conclusions which are ultimately reached, and to assure the underwriting of the Committee Report by all Committee members.

3) Once CNCC has an Office of Institutional Research in place, the Director of Institutional Research will generate or acquire all data needed by the Program Review Committee and provide a comprehensive summary of data to the Review Committee as called for by the Program Review Data Sheet.

4) The Administrative Cabinet functions as an ultimate Program Review Council for the college. The Cabinet reviews the Committee Reports and the "recommendations of status' of the Vice Presidents. The Cabinet assists the President in reaching final conclusions from program reviews and declaring the outcome status for each program involved.

5) The President in Administrative Cabinet ultimately declares the outcome status of each program reviewed, articulates an action plan regarding each, and communicates the overall results of program review to the Board of Trustees. Later, the President forwards an annual report on program review to CCCOES and CCHE.

9. Guidelines for Drafting the Committee Report

The evaluation of current programs (instructional activities, student services, support functions) is based upon the several criteria outlined in section 5 above (Performance Criteria for the Assessment of Quality) plus such additional criteria as shall be negotiated between the committee chairperson and the appropriate vice president. Core criteria 1-5 should be addressed by all program reviews. Instructional program review committees should look at the program in light of criterion 6 as well. Committees looking at occupational programs should take into account industry/work-place expectations. Outreach functions, such as offerings at off-campus sites, should establish related criteria.

Thus, having the criteria in hand and acquiring all meaningful data possible for answering the questions raised by each criterion in turn, the committee will proceed to analyze the extent to which the program:

-fulfills college missions/program objectives
-addresses client needs
-delivers quality services
-effectively utilizes its resources
-produces the desired outcomes

Following discussions on how the program measures up to each of the criteria chosen, the written Committee Report will consist of the following:

Cover Page. Colorado Northwestern Community College Program Review for (Mathematics; Registrar's Office; Financial Services, etc.), Committee Chair and Member names to Vice President's name, and date.

Table of Contents.

Need for the Program. Describe the value of the program to the college. What institutional missions, strategic plans, or program objectives are the program fulfilling? Pursuing the questions outlined in Criterion 1, clearly establish the on-going need for the program.

Productive Delivery of Program Activities/Services. Outlining a brief history of the program, describe the current activities/services of the program and the clientele served. Are the program's services congruent with its objectives? Is it accomplishing what it sets out to do?

Effective Use of Program Resources. What is the range of resources utilized by the program? Considering personnel, equipment/materials, and facilities, are the program's resources adequate to its function? Are these resources being effectively used to achieve the program's objectives?

Cost Efficiency. Describe the volume/range/productivity of the program. What, then, are the program's fiscal dimensions? If the program earns revenues, how do these stack up against expenditures? What are the evidences that the program is cost efficient?

Program Outcomes. Delineate the ultimate outcomes of the program's activities. Does the program make it possible for clientele to reach their goals? Are clientele satisfied with services rendered? To what degree do outcomes measure up to those pursued?

Response to Additional Criteria. Here, narrate the committee's response to the program in light of other special criteria. Committees reviewing instructional programs should examine them for curriculum integration, student educational intent, and satisfactory student mobility. Committees looking at other services/functions should draw conclusions using other specially negotiated criteria if such are deemed useful.

Recommendations. Having outlined evidences of the program's strengths/successes under each of the criteria above, now describe what needs to be done to increase this program's effectiveness over the next five years. If recommendations require additional resources, be as specific as you can about where, what, when, how, and why these resources need to be added to the program's support. If these involve additional funding, spell out amounts of money needed and the year in which the allocation should be made. Provide recommendations for all of the following areas which are relevant:

-Curriculum
-Pattern of course offerings/services
-Number and responsibilities of faculty/professional personnel
-Number and responsibilities of support staff
-Non-salary budget (supplies, travel, etc.)
-Equipment (items costing $300 or more)
-Space/facilities (classrooms, labs, offices, storage, special)
-Staff development (list needs for professional development, faculty and staff travel)
-Students/clientele served (project total number of students/clients expected to be served each year for three years)
-Marketing/promotion (indicate plans for promoting the offerings/services)
-Community liaison (advisory committees, links with community agencies)
-Accreditation (if relevant)

Data Summary. If you have produced summaries of the data acquired to answer key questions raised by the criteria above, add those summaries to the Committee Report at this point.

Highlights. This is to be an "executive summary" of the strengths of the program and the areas needing change for program improvement. It should be designed for those who will not read the entire Committee Report. This one-three page summary should be written after the Committee Report is completed. It should be inserted into the Committee Report to follow just after the Cover Page--between the Cover Page and the Table of Contents.

Format of the Committee Report. Please comply with the following standards for the Committee Report format:

-Single space to avoid bulk; adequately space between paragraphs to comfort the eyes.

-Bind in a manner that is easy to take apart for duplication and for addition of the Vice President's Recommendations and the President's Status Report.

-Highlight major headings in the Report for ease of reading.

Distribution of the Committee Report. Submit four (4) copies of the Committee Report, with the Highlights appropriately inserted to follow the Cover Page, to the designated Vice President by April 1. Copies will be distributed as follows:

-Once the Vice President's Recommendations have been added, a copy will be returned to the Chairperson of the Program Review Committee. The President's Declaration of Status for the program will follow.

-Once the Vice President's Recommendations have been added, a copy will be returned to the director/supervisor of the program/service. The President's Declaration of Status for the program will follow.

-One copy--with the Vice President's Recommendations added--will be retained in the Vice President's program file. Once completed, the President's Declaration of Status for the program will be attached.

-One copy--with the Vice President's Recommendations and the President's Declaration of Status attached--will be retained in the President's file. This copy will be utilized as the President reports the annual results of program reviews to the CNCC Board of Trustees and to CCCOES and CCHE. This master file of program reviews will also be called upon in due season to compile the products of program review for the North Central Association Self-Study and Site Visit.

APPENDICES:

Program Review: Records Office

Program Review: Aviation Technology

COLORADO NORTHWESTERN
COMMUNITY COLLEGE
PROGRAM REVIEW

# RECORDS OFFICE

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Submitted to: Dr. James H. Ross
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SUMMARY

The Records Office exists to provide services to the Colorado Northwestern Community while safeguarding the records of individual students. The services provided include, but are not limited to, admissions, registration, grading, reporting, graduation and athletic eligibility.

A strength of the Records Office is the completion of numerous, varying tasks in a timely and accurate manner. The office has contact with over 1300 students and many faculty/staff each semester. Often, the office is finalizing one semester while at the same time beginning a new one. Additionally, there is need to compile enrollment history for reports or to comply with special requests.

A second strength of the office is the personnel. Students, faculty and staff feel the personnel are helpful, cooperative, and efficient. They find the office responsive to their questions and difficulties and that most are resolved satisfactorily. Both members of the office were nominated for the Distinguished Service Award in 1991.

Full implementation of the COLLEAGUE software will provide solutions to some of the problems. When a student registers, the system will display the current address which can immediately be corrected if needed. As we progress in the implementation process and provide access to advisors, they will have access to immediate information on class closings, cancellations and changes.

Beginning with the upcoming academic year, additional hours of office coverage will be added. The office will remain open during the lunch hour and office hours will be extended for an additional hour two nights per week. These additional times will address the needs of working students.

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## NEED FOR PROGRAM

### Program Objectives/Philosophy

The records office of any college plays an important role for the students, faculty and staff of an institution. The office is responsible for facilitating student matriculation, maintaining all pertinent records and producing the academic records. Faculty are advised of class enrollments, drops, adds, and withdrawals. Advisors receive information on student progress at mid-term and final grades. The records office maintains contact with program areas to update the college catalog and is responsible for the published product.

The Records Office recognizes that each aspect of the college experience contributes to the development of the student and includes the admissions and registration process. Through advising assistance, registration, transcript evaluation, and program evaluation the student makes decisions to attain his education goals and is given the responsibility to make decisions concerning them. Our responsibility to the student includes maintaining and safeguarding the Admissions files and academic records and protecting the student's right to privacy.

This office also has a responsibility to the institution to comply with federal and state reporting policies, to enforce and recommend academic regulations, and to provide information to various sectors of the institution upon request.

### Goals

This coming year we will be involved in implementing admissions and records portion of the computer system on the Rangely campus for use during pre-registration for Summer and Fall 1991. No later than summer 1992, the Craig Campus and the three Service Areas will be recording and maintaining course schedules and enrollments. This will reduce the workload apportioned to this office, but will require training of personnel. Community Education personnel will also be trained to utilize portions of the COLLEAGUE Software.

Training for the Degree Audit Module will be scheduled for Fall 1991, to be implemented for Fall 1992. This will be used to assist students and advisors in the decision making process.

Goals for the next three to five years include full utilization of the computer software's capabilities. COLLEAGUE possesses an extensive security structure which will allow "inquiry only" to specified information. Students and advisors will be better served with access to information on-line. To accomplish this, computer access will need to be given to advisors. Confidentiality of information could become a problem. A plan will be devised to instruct users in the utilization of the system and assist users to thoroughly understand the Family Educational Rights and Privacy Act and its importance.

As we learn and understand the extent of the information which can be provided by the new system, a compilation of historical information will begin. To accomplish this efficiently, a coordinated plan of information retrieval and reports will be devised. This effort will need to be coordinated with Student Services and Instruction to be able to provide the information needed for varying purposes.

Paper records will not become obsolete. However, a determination for the disposition of former records will become a necessity. It is anticipated that these records will need to be microfilmed and stored. Questions to be answered include whether to formalize transcripts for these students and place on microfilm or to just film the grade reports and applications as they are found in the files. If transcripts are not formalized, a transcript may be input in the system when it is requested. Regardless of the disposition, this will be a time consuming and expensive procedure.

## 2. PRODUCTIVE DELIVERY OF SERVICES

History

Prior to 1984, the admissions and records office was overseen by a Director of Admissions, Records, and Recruitment. Under this director existed a

"Recorder" responsible for day-to-day office operations, transcripts and report generation; and one full-time secretary whose main responsibility was recruitment correspondence. In January 1984, upon resignation of the director, the office was divided into 2 units, Admissions and Marketing and the Registrar's Office. This division continued until November 1990. As CNCC considers marketing to be a prime goal and to better define the areas of responsibilities, the titles of the two positions have been changed. The Director of Admissions and Marketing will be Director of Marketing and Recruitment and the Registrar will be Director of Admissions and Records. The body of this report will deal only with the functions previously assigned to the Registrar, which includes some admissions functions.

Services/Activities

Once an application for admission is received, this office sends acceptance letters and forms and begins maintaining student files. Prior to student arrival, information concerning the beginning of the semester is sent to all applicants, as well as returning students. The office collects all incoming information and performs transfer credit evaluations for general education courses. Assistance is provided by vocational program directors to determine granting of credit for vocational courses.

Dental Hygiene requires our services in the selection of qualified candidates for this program. Once candidates are selected, interviews are arranged, and point totals assigned to determine the new DH class. This office evaluates applications until the class is full and notifies successful and unsuccessful candidates.

Registration and pre-registration are organized and facilitated by the Records Office. Included are notification of students and advisors, schedule input, maintaining schedule drop/add/withdrawals, printing course rosters, and providing student schedule information for the flight program. In addition to the Rangely campus students, the office also inputs and maintains registration information for the Craig Campus and Meeker, Hayden, and South

Routt service areas. Fall and Spring enrollments vary from 1200-1500 students, with 600+ in the summer.

Grade information is collected in Rangely after 4 weeks for athletes, mid-term for all students, and 4 weeks later for athletes. Mid-term grades are distributed to all students and advisors. Grades for all areas are collected, and input at the end of each semester, producing grade mailers for all students. Formal transcripts are maintained for Rangely, full-time students. Other transcripts are hand-produced on a requested basis.

Information is gathered yearly to publish a new catalog. The new or revised information is collected from all areas of the college, compiled and forwarded to a publishing company. It has been suggested that campus production include creating a camera ready product to ensure accurate, timely information. This may occur in the future when additional equipment and personnel are added or the nature of CNCC's printing operation changes. The 1991-92 College Catalog will be printed on less expensive, but quality, paper to reduce cost so that additional catalogs will be ordered.

The records office is involved in the varsity athletic program. The office provides grade information for coaches and is responsible for completing NJCAA athletic eligibility rosters; once a year for volleyball, softball, and baseball and twice a year for men's and women's basketball and men's wrestling. This office collects information and physical examination forms and determines the academic eligibility of athletes.

Graduation requires time from the Records Office. Diplomas are ordered, names provided for the graduation program, the graduation is certified and recorded on transcripts. Names and addresses are distributed to the Counseling and Job Placement Center and the President's Office.

The Records Office is responsible for numerous surveys including the College Board Annual Survey, Peterson's Guides and ACT's Survey. This office

also reports data to the state and federal governments. These reports consist of enrollments, demographic information and FTE for each semester and graduation information yearly. Along with governmental reporting, information is provided to various offices and personnel upon request. Since the implementation of the POISE computer system in 1983, information requests have steadily increased. The accountability process has and will require additional information be recorded and processed. Information requests, particularly past history, are increasing this year due primarily to implementation of the program review process. It is anticipated that the COLLEAGUE system will again generate new information requests as additional types of information will be available.

This current year, CNCC began the implementation of a "new" computer software package. The Admissions and Records Office is very involved in this process. Personnel have attended training in the areas of Admissions, Correspondence Control and Registrar. It is and will be a time consuming process to set up the various files to prepare for use. This year will test our limits!

**EFFECTIVE USE OF PROGRAM RESOURCES**

Personnel

The office is staffed by two full-time people, currently Sue Shafer and Margaret Williams.

Sue Shafer, Director, was employed in August 1979, and has been in the Records Office since 1982, appointed Registrar in January, 1984. She holds a BA from Bridgewater College and has completed 1/3 of a Master's Program in Education Administration. Plans are to complete courses at the end of the summer 1992. Staff development opportunities within easy travel distance are limited. She belongs to two professional organizations: American Association of Collegiate Registrars and Admissions Officers and the National Association of Foreign Student Advisors. She attended a regional AACRAO conference in Grand Junction, July, 1989 and a national AACRAO conference in New Orleans, April, 1990. She was nominated for Distinguished Service Award in 1989 and 1991.

Margaret Williams was employed in September, 1988. She received an Associate of Arts from Vernon Regional Junior College in 1986 and was employed at Del Mar College for 3 years prior to coming to CNCC. She has participated in several secretarial seminars/teleconferences as well as a word processing class. Future classes and additional computer training are planned. Margaret was a member of the Evaluation Committee during 1989-90. She was nominated for the Distinguished Service Award in 1991.

Possible Personnel Needs

Requests for current and historical information is on the increase. The two main contributors are legislated accountability and program reviews. The office is strained this year, and will be again next year, due to these additional requests and implementation of COLLEAGUE. It is anticipated that removal of the service area responsibilities and finalizing software implementation will reduce the strain and allow additional time for the reporting function.

As the Director will not be able to personally complete all requests, the secretary will receive training and have additional responsibilities which would entail a request for elevation on the classified staff scale.

The personnel situation will need to analyzed and examined each year. A final determination will be made within the next 3 years.

Facilities/Needs

The records office consists of two offices. One office is easily accessible to the public and is shared with Candy Hessinger, Marketing and Recruitment Secretary. This office is large, but due to building conditions is very warm in the summer as no air conditioning reaches it. Early winter mornings the sun shines in a manner which makes it difficult to see computer terminals in its present arrangements. Early winter evenings make

it difficult to sit at one of the typewriters as the sun shines in the back door.

The other is also large and contains a vault for safe record storage. This office is satisfactory and would be more so if some of the equipment and unneeded furniture and storage cabinets were removed. The biggest fault is no window and therefore no ventilation from the outside.

Each person has a PC for use with individual software packages and access to POISE and COLLEAGUE. The office also has a dot matrix printer, used for many reporting functions, and a Laser JetII for use with correspondence. With implementation of COLLEAGUE, transcripts will be computer generated, so this printer will see additional use; and may require an additional unit.

The functions of Admissions and Records and Marketing and Recruitment are interrelated. They should exist in close proximity to one another, but do not. Day to day communication and coordination are difficult. It is suggested that the Director of Marketing and Recruitment's office be moved within closer proximity of the remaining offices.

The Campus Facilities Master Plan includes moving Student Services to the Johnson Building. If this becomes a reality, all of the above concerns and problems with offices will be resolved satisfactorily.

Demand on other offices

The records office does not create demands on other offices as much as other offices create demands for the records office. The exceptions are Student Life, when we request current, updated residence hall information. The computer center is another, as we need reports, grades, and transcript labels produced, and files created and made to tape for state and federal reporting. The demand on the computer services will increase this year and in upcoming years as the computer system is implemented. We also require accurate and update information from the Vice President of Instruction's

Office and Community Education on courses being offered, changed or cancelled. The Community Education Office assists in registration and collecting information from part-time instructors. The records office requests information from faculty including student non attendance and information for grades.

## 4. COST EFFICIENCY

Budget

Removing budget amounts for personnel ($60,256 salaries and benefits 1989-90), which is controlled by the Board of Trustees, and catalogs ($6,000 for 1989-90) which is driven by the publisher bid, the Records Office has reduced budget requests from $3,600 in 1987-88 to $2,800 in 1989-90. This represents an increase in travel and decreases in supplies and equipment repairs. In 1989-90, however, the office overspent $500 for supplies and travel and spent $0 on equipment and maintenance.

Previous years' budgets have been examined. The travel budget is sufficient when only one conference is attended per year, and no increase will be requested. Printing and copying costs have steadily risen during the past three years with no increases requested to compensate. The 1991-92 budget request includes a $300.00 increase in this area.

It is difficult to know how to measure the cost efficiency of this office. Budget information was requested from other institutions in an attempt to make comparisons. However, the information received was difficult to analyze. The operating budget for this office is small. During a fiscal year, the office provides some service to 2300-2500 enrolled students. It provides transcripts to perhaps 1000 students. Additionally, there are services provided for instructors and staff. It would be impossible to equate the numbers served versus dollars spent.

**PROGRAM OUTCOMES**

Satisfaction with Program

To complete this portion of the report two surveys were distributed, one to students and one to faculty and staff. The survey was not designed to be tested for validity or reliability, but to provide generalizations concerning the office and to provide an "outsiders" insight to guide improvements.

The student survey was distributed to 200+ students registered for Fall Semester 1990. Fifty-two surveys were returned: 42 females (17 full-time) and ten males (7 full-time). Overall responses were favorable.

Two areas mentioned for improvement were grade distribution and office hours. Some respondents felt grade distribution took too long and/or grades are mailed to the wrong address. Grades are sent 2-3 days after final grades are received, and cannot be produced any quicker. New registration materials will be designed for the upcoming Summer and Fall pre-registrations. Included on the form will be an indicator for address changes. This will address that portion of the concern. A request has been made to allow grades to be sent to all students, regardless of financial obligations. Grades are not official documents and the information can be important to students needing to assess their education.

The second, office hours, was expressed as a concern mostly by part-time students, but was mentioned twice by faculty and staff. This will be addressed for Fall Semester. The office will remain open during lunch hours and be open until 6:00 p.m. two nights per week, as well as Monday through Thursday of the first week of classes. A log will be kept of the numbers of people served during these time periods.

Some part-time students, who are also degree seekers, want to be included in the pre-registration process and be notified of the dates and times. As this is valid, these students will be contacted

beginning with pre-registration for Summer and Fall 1991.

Surveys were sent through the campus mail to all faculty and staff. Forty-one faculty/staff surveys were returned as follows: instruction - 22; administration - 2; student services - 9; business office - 5; and
other -3.

Two areas received a negative response. Timeliness in receiving rosters was the first. Printing of rosters is completed (normally) by 9:00 a.m. of the first day of classes. Distribution is often by campus mail. One person suggested hand delivery. Being a small campus, this could be accomplished.

The second concern is distribution of information to advisors, particularly closed/cancelled class information. Without a computer terminal being available for every advisor, this will remain a problem (a goal expressed earlier). To ease the student burden, redesigned registration forms will include space for alternative course selections.

Information availability was mentioned and has been addressed in another portion of this document. (see Page 2, Goals)

The general tone of survey responses, whether from students or faculty, was positive. The majority felt they have an awareness of the services provided and satisfaction with the delivery. Personnel, particularly Margaret Williams, are received well by others. As mentioned above, the concerns which can be addressed will be addressed in the near future.

**RECOMMENDATIONS**

The body of the report addressed recommendations and possible future needs. They are highlighted as follows:

1. Computer training will need to be offered to several areas. In particular Craig campus personnel, Service Area personnel, Community Education and advisors.

2. Devise a systematic system for retrieving and retaining historical student/course information.

3. Plan for disposition of "older" records. Budget year 1994-95: estimated cost, $5,000+.

4. Evaluation of personnel needs and job specifications. Current anticipation is no new personnel, but additional responsibilities to the secretary requiring salary adjustment. Determination by 1994-95 budget year.

5. Purchase additional Laser Jet Printer to facilitate transcript printing. budget year 1993-94. Estimated cost: $2200.

6. Longer office hours to accommodate part-time working students. Begin lunch hour coverage and one additional evening hour twice weekly. No cost.

RECORDS OFFICE SURVEY

1. Below is a list of services/functions performed by the Records Office. Please indicate if you are aware of the service and if you have used it. If you answer yes to both questions, please indicate your satisfaction/dissatisfaction with the service.

| | Am aware of (Blanks) | Have Used | Satisfactory | Unsatisfactory |
|---|---|---|---|---|
| Preregistration | 2 | 42 | 41 | 11 |
| Registration | 1 | 45 | 43 | 1 |
| Drop/Adds/Withdrawal Process | 6 | 29 | 25 | 1 |
| Grade Distribution | 8 | 40 | 29 | 6 |
| Transfer Credit Evaluation | 13 | 14 | 10 | 3 |
| Transcript Service | 13 | 18 | 13 | 1 |

2. This office is open during regular business hours; 8:00 a.m. to Noon and 1:00 p.m. to 5:00 p.m., Monday through Friday.

   Are these hours convenient? 42 yes 8 no

   If no, what additional hours and days would you recommend? 1) 12-1 or until 5:30 2) 12-1, same as cashier, 3) some evenings 4) until 5:30 5) at least 1 evening hr before and during registration 6) add hrs. to 5:30 8) through noon hrs.

3. Have you had a personal contact with this office, in person or by phone? 48 yes 4 no

   If yes, have the personnel generally been:

| | | | |
|---|---|---|---|
| Helpful? | ___yes | ___no | All responded yes, except for one person who indicated "both". |
| Courteous? | ___yes | ___no | |
| Pleasant? | ___yes | ___no | |
| Cooperative | ___yes | ___no | |
| Accessible? | ___yes | ___no | |

4. Have you had a problem and contacted the Records Office for assistance? 18 yes 28 no

   If yes, was the problem resolved satisfactorily? 14 yes 2 no

   If no, what could have been done differently?
   1. Change the rules
   2. confusion when withrawing from class and money was not refunded.

5. What suggestions do you have to improve the services provided by the Records Office?

   "All students (part-time included) should be put on waiting lists when classes are closed. And follow up schould be done on all inquiries."

   "Instead of ~~doing~~ having registration on only one day, have it over a few days."

   "I feel the Records Office does an accurate job in keeping me updated on my file aldng with Registration. I have never had a problem that couldn't be fixed."

   "I changed my mail address to college and they still mail things to my house."

   "Part-time students are not informed on time and do not get the classes they need, sometimes"

Comments, suggestions continuedd

"They suggest we get a post office box at CNCC to get preregistration notices or other papers but it is not always easy to get to the college for your mail when you work and live elsewhere. I would pay a fee to get notices sent to my mail box!"

"I really don't have anything else to add! You people are really nice and helpful. Just keep up the good work!"

(Registration) "needs help but not your area.'

YYour office has been very helpful to me personally and with other job related problems." Keep up the good work."

"Doing a great job as far as I'm concerned!"

"At this time, I'm very pleased with the services provided by the Records Office."

"I think you work hard and do a very nice job. Thanks!"

"I live her, you send my grades to my permanent address."

"Make sure they mail their stuff to your correct address. I told them my new address and they still sent it to the old one."

FACULTY/STAFF SURVEY
RECORDS OFFICE
FALL 1990

1. Below is a list of services provided by the Records Office to faculty and staff. Please check those that apply to you and note whether you are satisfied/dissatisfied with the service and whether you feel it is delivered in a timely manner.

| | Satisfied | Dissatisfied | Timely | Not Timely |
|---|---|---|---|---|
| Enrollment (Rosters) | 29 | 1 | 17 | 3 |
| Grade information | 31 | 1 | 20 | |
| Advising Information | 20 | 5 | 11 | 6 |
| Report Information | 28 | 1 | 18 | 1 |
| Other (please specify | | | | |
| Individual Inquiries | 1 | | | |
| Transcripts | 2 | | | |

2. The office is open during regular business hours; 8:00 a.m. to Noon and 1:00 p.m. to 5:00 p.m., Monday through Friday.

Are these hours convenient? 30 yes 3 no

If no, what additional hours and days would you recommend?

1) lunch hour for student use
2) coverage 12-1
3) 7:00 - 8:00 (I do not know if this person means a.m. or p.m.)

3. Do you generally find the Records Office personnel:

| | | | |
|---|---|---|---|
| Courteous | Yes | no | All positive except as noted. |
| Helpful | yes | 1 no | |
| Pleasant | yes | no | two responded "most of the time" |
| Cooperative | yes | no | |
| Accessible | yes | 1 no | |

3. What can this office do to improve its services? (Please use the back side if necessary)

"What is this office doing that is good? Good Communications"

"The only office that consistently gives written requests, problems reports, etc. I want to take this opportunity to say thank you, I really appreciate it."

"I think this office is doing a terrific job!"

Respondent information

| | |
|---|---|
| Administration | 2 |
| Instructional staff | 22 |
| Student Services Staff | 9 |
| Business Office Staff | 5 |

others 3

Employed: ___ 1/2 time ___3/4 time ___full-time

Male ___ Female___

Suggestions/Comments continued (from Faculty and Staff Survey)

"Extended office hours during registration was a great effort in helping serve non-traditional students. Hats off to your office. It's one of the most helpful, friendly offices on campus."

"Margaret Williams has been a great asset to your office! Keep up the good job!"

"It would be helpful if we had a quicker/more efficient way to inform students and advisers of closed/cancelled classes. Perhpas the new computer system will offer us some options."

It might help if you were more visible to the students. At the "new" location that may be possible!"

"Margaret Williams is super! She is very helpful. Always gets back to me with an answer."

"They are great about follow-up on questions I have."

"Possibly communication new information to advisors re: our 800 number and availability of the staff for student needs Even a 'we deliver these services sheet' to educate everyone on where to access information."

"I am pleased with the services available in the records department. I also commend you for your consistent positive attitude."

"Not only in this office, but in others across the campus, there is a pronounced dearth of longitudinal information essential for satisfactory completion of certain reports."

"I think your efforts to be open for townspeople in the evenings is great and should be continued."

"Place your historical records on the PRIME."

# Vice President's Response to the Records Office Program Review

June 1991

James H. Ross

## Overview

The Records Office at Colorado Northwestern Community College exists to provide for the storage and retrieval of student records. The services provided are primarily admissions, transcript evaluations of transfer students, registration, grade reporting, graduation checks, and athletic eligibility reviews. The responsibilities of this office have increased tremendously over the years due to the proliferation of state and federal reports, the development of four off-campus centers and the increase in the number of internal reviews, audits and studies.

## Strengths

The Records Office has been extremely well managed and has provided accurate and timely leadership for a number of years. Strengths of this office are:

1. The Records Office completes numerous tasks in a timely and accurate manner.

2. The registration process has been streamlined and functions very smoothly.

3. The personnel in the Records Office have been repeatedly commended by faculty and students for their courteous, cooperative, and efficient service. Both members of this office were nominated for the Distinguished Service Award in 1991.

4. This office has assumed a key role in the implementation of the new computer.

5. New techniques are constantly explored to improve the functions and service of this office.

## Weaknesses

Although this office operates very efficiently, there are several areas that need attention.

1. Older records, especially from the off-campus centers, need to be filed in a manner which would facilitate rapid retrieval.

2. We need to continue to develop systems to easily and accurately evaluate student demographic data.

3. This office provides services for all off-campus centers and the Craig campus. Computer and records training needs to be offered to these areas.

## Recommendations

The program review revealed a number of areas that need to be developed to strengthen the Records Office and its services.

1. A number of staff need to be trained to fully utilize the new computer. Craig campus personnel, Service Area personnel, Community Education staff and student advisors all need this training.

2. A systematic system for retaining and retrieving student and course statistics and demographic data needs to be developed.

3. Older records need to be safely stored and "hard copies" destroyed.

4. The demands of this office will soon require the hiring of additional staff.

5. An additional Laser Jet printer needs to be purchased to facilitate transcript printing.

6. The office hours for the Records Office needs to be reviewed and the office open at times convenient for working and non-traditional students.

## Program Status

The Records Office is operated very smoothly and efficiently. No major concerns were revealed by the Program Review. It is with pleasure that I recommend that we declare the Records Office as having satisfactory status and that the next review take place in the year 1995-1996.

COLORADO NORTHWESTERN COMMUNITY COLLEGE

PROGRAM REVIEW

AVIATION TECHNOLOGY

Jimmie A. Page, Mike M. Brennan, Stan Gomez

to Dr. Carlton Williams

April 17, 1991

# PREFACE

The Career Pilot Program in Aviation Technology at Colorado Northwestern Community College provides a relatively low cost avenue for the student desiring a career as a professional pilot. Due to the association with the community college education system, an individual student does not need to absorb the total cost of flight training when compared to commercial flight schools. At the same time, the student receives training of the highest quality obtainable. The student draw thus generated, helps provide a strong and continuing basis of support for the college as a whole.

An attempt will be made to identify the strong points and weaknesses within the program, suggest methods and directions for improvement, and provide suggestions for the continuing and far reaching advancement of the program. Though some of the supportive data is incomplete or unavailable, the suggestions and assertions made will be substantiated as much as possible.

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## NEED FOR THE PROGRAM

It is reasonable to expect any program within a community college that articulates into a four year institution will have spin off value to the other programs in that college. For instance, fifty full time aviation technology students are required to take the core curriculum courses, such as English, math, speech, etc. This results in the other programs having fifty students drawn specifically to the Aviation Technology Department helping fill their classes at some time during that aviation technology student's four semester tenure.

Rangely, being the home of CNCC, and being in an isolated area, might be hard pressed to recruit enough liberal arts students without the draw from the vocational programs such as aviation technology.

The Aviation Technology Program has helped sustain a respectful average of students for CNCC since 1967.

Aviation technology, which is a highly specialized field, and by its own nature very expensive, (due to the use of aircraft that are necessary to meet Federal Aviation Agency requirements), does not draw a lot of student interest outside the aviation-interested students on campus. Most of the aviation technology students come from outside the community, and are drawn here by the vocational and accredited classes in aviation.

The value of the aviation program to the overall health of CNCC is apparent.

The aviation field will continue to evolve into a more balanced industry. More sophisticated and environmentally compatible airplanes will be built. Better and more efficient airports will be utilized. More sound federal regulations will be mandated. The need for better trained pilots and support people will also be needed to fly and maintain the new fleets of aircraft. As long as aviation exists, there will be a need for well trained and educated people in the industry.

The Associate Degree in Aviation Technology articulates into a four year degree in Aviation Technology. The core credits and requirements to move into higher education is well laid out and takes a student through their first two years in a well integrated system of technical, general education and federal aviation requirements. It is the intent of the aviation program to provide the best

quality training that exceeds the Federal Aviation Agency requirements and prepares a student for the step into the next phase of their education whether it be pursuing a four year degree, or filling a place in the industry with the building blocks for advancement.

## PRODUCTIVE DELIVERY OF PROGRAM ACTIVITIES/SERVICES

The Aviation Program is designed to provide the dual function of a disciplined approach to the art and science of flying, and the requisite vocational skills for those graduates who intend to fly professionally as a career. A useful adjunct program for community services lies in the training of area residents and others in the aviation skills for business and/or recreational use. The Aviation Program seeks to develop maturity and judgement in younger students throughout their adult life. The challenge to mature students in developing new abilities in aviation has proven of benefit to them. It has also contributed to their awareness of the programs offered by the college.

The Aviation Technology Program was started in March of 1967 with sixteen students and two airplanes. It expanded in the Fall of 1967 to fifty students and six airplanes. The program continued to grow and had ten airplanes in the Fall of 1968. Growth continued in the number of students and in course offerings. Enrollment since has remained at a relatively constant level of approximately 65-70 students, currently with a staff of ten flight instructors, fifteen airplanes and one flight simulator.

At this time, the program is able to provide training from Private Pilot through Airline Transport Pilot with Flight Instructor ratings with an articulated track to provide transition into a four year degree. The Aviation Program is congruent with its objective of graduating a student with a two year Associate Degree in Aviation Technology. CNCC's Aviation Technology Program has established a four semester track to graduate its students on time with all the College and Federal Aviation requirements.

The Aviation Program has recruited knowledgeable and dedicated professional pilots with vocational credentialing to instruct to standards that exceed the Federal Aviation Agency requirements . Aviation program students are introduced to a disciplined, well organized framework to ensure each student recognizes the professional attitude and performance that is required in the aviation industry.

## EFFECTIVE USE OF PROGRAM RESOURCES

It is unfortunate, but not all pilots are created equally. Information is one of the ways we build knowledge, and where we get that information, and from whom, is vital. If we wish to be professionals, it makes good sense to be trained by professionals. For a graduate of the Aviation Program to be marketable in the field of aviation, one must have that competitive edge. That can best be provided by being taught by someone who has been there.

The staffing of an organization is based on how large a population of students is enrolled, the different phases of training a student must advance through, and the graduating requirements for each student.

For the past fourteen years, CNCC has averaged approximately seventy seven students being enrolled in the Aviation Program during the Fall semester. With normal attrition, a slightly lower figure of 65 for the Spring semester. Likewise, CNCC has staffed ten instructors to accommodate those students, four of which are senior instructors, and one of those senior instructors acted as Program Director and Chief Pilot. Considering the combined Program Director and Chief Pilot duties as being more than a full time job in itself, that left nine flight instructors to accommodate the students' needs for flying. With seventy or more students moving through their different phases, based on the approved FAA training syllabus, the other three senior flight instructors spent most of their time teaching ground school and giving phase checks, which is a time consuming project, to say the least, if it is to be performed correctly, and to FAA standards. That leaves the bulk of the actual training to the remaining six junior, or less experienced, flight instructors.

The average number of students to graduate in four semesters in the last fourteen years was fourteen.

The flight hours it takes to graduate with an Associate Degree in Aviation Technology averages two hundred fifty hours. One hundred fifty of those flight hours are dual or actual instruction by a flight instructor in the aircraft. The remaining one hundred hours is flown solo by the student. One hundred fifty dual flight hours times seventy students equals 10,560 hours. This number divided by six flight instructors equals 1750 flight hours for each instructor that they would have to fly in four semesters. This equals out to

approximately 437 flight hours per semester for the six instructors.

Due to weather and cancellations, the program can expect to fly thirteen weeks per semester. Thirteen weeks divided into the 437 flight hours, gives a 34 flight hour week that will have to be flown by each junior instructor.

It takes a ten hour work day to produce a net of four hours of flight time. If a flight instructor works a fifty hour week, he can produce a net of twenty flight hours a week. That leaves 14 hours a week for each junior flight instructor that cannot be made up by the senior instructors or chief pilot unless they neglect their duties to do so.

By using simple math, it is easy to see that staffing has to be based on how many students are enrolled, and how many students you want to graduate on a four semester track.

The optimum ratio of instructors for seventy students would be ten instructors. i.e: 10,550 total hours in four semesters divided by 10 instructors equals 1055 hours per instructor; four semesters divided into 1055 hours equal 263 hours per instructor per semester; 13 net weeks in a semester divided into 263 flight hours per instructor equals 20 hours per week per instructor. The bottom line is that to effectively keep 70 students trained properly and to keep them on a four semester track, you will have to staff: 10 junior flight instructors; 4 senior flight instructors, for a total of 14 on staff.

It is understandable to see why many of the 70 students did not graduate in four semesters. When you are under-staffed, the tendency is to favor the more aggressive or motivated students. They end up graduating along with the core that staffing can accommodate, the rest are left over until opportunity allows time to get back to them.

The aircraft of CNCC and their projected usage can be broken down mathematically, as was the staffing. We can use the same scenario of 70 students needing 250 hours to graduate in four semester track, or 10,550 total hours needed to graduate all 70 students.

Based on an eight hour day, an aircraft can expect to net five hours of flight each day, 25 hours a week, 325 hours a semester, 1300 hours for four semesters. 1300 divided into 10,500 equals eight airplanes that will be needed to accommodate 70 students.

Those eight aircraft will, of course, need to be maintained to FAA standards, and to make sure that eight aircraft are always flying, one aircraft out of the eight will be down every 100 hours for routine maintenance. That would leave seven left to fly at any given time, so a fleet of nine planes would be needed to keep eight flying.

This brings us into the maintenance staffing. Another math problem that can be solved this way: 10,550 total flight hours divided by the FAA 100-hour inspections, equal 106 100-hour inspections in four semesters that will have to be performed. Based on a fifteen week semester, (maintenance doesn't have to stop for weather), 27 inspections need to be performed each semester. Three maintenance personnel based on a forty hour work week perform two 100-hour inspections per week. This includes all their other weekly duties as well. If you are staffed with less maintenance personnel than three, you will start to accumulate 100 hour inspections, which will, in turn, cut into your airplane fleet, which will cause some of your students not to graduate on time, because they won't be able to fly their allotted 250 hours on schedule.

To keep this balance of aircraft, students, maintenance and academic studies, is to say the least, a scheduling challenge. A dispatch system plays a crucial role in coordinating a workable solution. The dispatch position is a full time, complex, demanding job that is absolutely necessary for a successful program.

## COST EFFICIENCY

Enrollment in the Aviation Technology Program has accurately reflected the nationwide "New Student Starts" figures provided through Aircraft Owners and Pilots Association and National Association of Flight Instructors. In Fall of 1987 there were 75 students enrolled. This rose to a high of 94 in the Fall of 1988 and declined to 83 in 1989. Fall of 1990 fell still further to 45. This rather dramatic decrease must be taken in context, and when the reasons for the decrease are coupled with the increase in efficiency, the results do not seem nearly as alarming.

In the 87-88 year the program experienced a student enrollment attrition rate of 29%. During the 88-89 year this attrition rate plummeted to 7%. The 89-90 year declined slightly to 6%. The most encouraging figures were for 90-91, which indicate a 2% increase in enrollment.

Graduation figures are even more enlightening. The 87-88 year produced 13 graduates or 17% of the total enrollment. There was a slight increase of 18% reaching their goal in 88-89. In the 89-90 year the program produced 23 graduates, or 28% of the total enrollment. It must be remembered that these percentages are figured on the total enrollment, of which roughly half are eligible to graduate.

The decline in enrollment is due partially to the nationwide reduction in new student starts, but perhaps even more significantly, to the policy of requiring a flight deposit up front sufficient to cover each semester's estimated flight costs. This policy is tending to give students a more accurate estimation of the actual cost of a very expensive education. This realistic, up-front, honest approach tends to reduce the number of students who start the program with little or no hope of being able to complete the program financially. What we have accomplished, then, is a realistic enrollment of students who will be able to graduate in the two year time frame of the college. This number can and will be enlarged as the quality and efficiency of the program is improved. We have been averaging 18-20 new students each fall semester for the past three years. The high enrollment numbers of the past years were due to the hold over students who were not able to graduate on time. The figure of new students accurately reflects the number of core students who are able to proceed through the program, and graduate, i.e: 40-45. Since the new student enrollment did not fall, but the total enrollment did, this

accurately reflects our efforts to get the holdover students finished and graduated. When these students are gone, there will be more time available by staff for the core students, and this number can then grow efficiently.

The budget has grown consistently, starting at $497,505 in 1988-89, jumping to $600,849 in 89-90 and increasing to $635,013 in 90-91. The projected budget for 91-92 contains many changes to more accurately reflect the true and realistic costs of the program. There is also reflected in the budget a large increase required for five engine overhauls, mandated by FAA regulations. In an FBO commercial flight operation, this is a fixed cost of operating and money is set aside in an engine overhaul fund for each flight hour flown. Since there is at present no means to do this at CNCC, the whole burden shows as a tremendous budget increase. It would seem that this avenue of funding the overhauls might be looked into for the future.

The faculty FTE's rose from 4.4 to 4.6 in 90-91, and the Support FTE's have remained at 2.92. The faculty salaries range from a low of $25,476 to a high of $39,031 with an average of $31,072 for four faculty members, two of which have 12 month contracts and two with 9 month contracts. There are also 6 or 7 (depending on student enrollment) assistant instructors with a monthly salary of $1330 per month.

The assistant instructors can handle approximately 8 full time active students. More or less than this figure is determined by the actual make-up of their students. i.e: does a student require all or mostly dual instruction or are they in a place requiring mostly solo. The four full time faculty members provide the phase checks required for the Part 141 program, teach all the ground schools, assist with students having problems in their flying, and do all the advanced instructing for CFI and multi-engine. The administrative duties required take up a tremendous amount of time also, including the supervision of the Saturday flight schedule.

Revenues generated by the program are considerable. Based on an average cost/student figure of $11,241 for the two year program, and with a student enrollment of 45, the program generates approximately $253,000 annually. Out of this figure, must come operating costs for the aircraft. Due to the way the monies are handled, i.e: deposited to the general fund and distributed by budget process, an accurate operating cost per hour has been impossible to obtain. The only comparison that can be made then, is with a commercial operator which will

charge somewhere between $15 to $25 per hour more than we do.

It must therefore be assumed then, that the operation of the college aircraft is in itself, very inefficient, and the deficit must be made up elsewhere with the FTE monies, etc. from the general fund. We, in the flight department have been informed that this is entirely in keeping with the goals and objectives of the community college. So be it.

To our knowledge, there have been no grants or other financial support affecting the flight department.

Due to the curriculum required for graduation, the flight program generates a very high degree of support for the general education departments of the college. It seems difficult to believe in the continued existence of CNCC without the draw of the specialized programs to support the general education departments.

## PROGRAM OUTCOMES

This program develops a student product capable of immediate employment in an entry level aviation job. It also equips the student with a strong core curriculum required to matriculate into a four year institution. With the recent improvements in efficiency, the program is, and will be, meeting its objectives with a very high success rate. This success is emphasized by the repeated employment of our graduates at various flight operations across the country. We have been providing the industry with a product that they have confidence in, and there is a certain knowledge that the CNCC trained employee will meet or exceed all expectations.

It is extremely difficult to maintain contact with all our graduates, but the ones we are able to correspond with, feel that their training received here has given them a very definite advantage over their peers trained elsewhere.

## RECOMMENDED CURRICULUM

| | | |
|---|---|---|
| GENERAL EDUCATION REQUIREMENTS | | 3 |
| ENG 121 | English Composition I | |
| ENG 122 | *English Composition II | |
| or | | |
| ENG 126 | Technical Writing | 3 |
| SPE 115 | Principles of Speech Communication | 3 |
| PHY 105 | Conceptual Physics | 4 |
| COS 105 | Computer Applications | 3 |
| | Social Behavioral Science Elective: ECO 201, ECO 202, POS 111, PSY 101, or SOC 101 | 3 |
| | **Math Elective (MAT 100 or above) | 3 |
| | PSY 100 Personal Growth for Success in College | 2 |
| | Physical Education Activity | 1 |
| | | 25 |
| SPECIALIZED COURSE REQUIREMENTS | | |
| AVT 101 | Private Pilot Ground School | 4 |
| AVT 102 | Aviation Meteorology | 4 |
| AVT 103 | Mountain Flying Ground School | 1 |
| AVT 111 | Introduction to Aircraft Systems I | 2 |
| AVT 112 | Introduction to Aircraft Systems II | 2 |
| AVT 121 | Private Pilot Flight Phase I | 1 |
| AVT 122 | Private Pilot Flight Phase II | 1 |
| AVT 123 | Private Pilot Flight Phase III | 1 |
| AVT 131 | High Performance Aircraft Flight Phase IV | 1 |
| AVT 132 | Mountain Flying/TCA Flight Phase V | 1 |
| AVT 133 | Advanced Cross Country and Night Flight Phase VI | 1 |
| AVT 201 | Commercial Ground School | 3 |
| AVT 202 | Instrument Theory Ground School | 3 |
| AVT 203 | Twin-Engine Aircraft Ground School | 1 |
| AVT 205 | Cockpit Resource Management | 1 |
| AVT 211 | Fundamentals of Instructing Ground School | 2 |
| AVT 212 | Flight Instructor Ground School | 2 |
| AVT 213 | Instrument Instructor Ground School | 2 |
| AVT 221 | Instrument Flight Phase VII | 1 |
| AVT 222 | Instrument Flight Phase VIII | 1 |
| AVT 223 | Instrument Flight Phase IX | 1 |
| AVT 231 | Commercial Pilot Flight Phase X | 1 |
| AVT 232 | Commercial Pilot Flight Phase XI | 1 |
| AVT 233 | Commercial Pilot Flight Phase XII | 1 |
| | | 39 |
| ELECTIVES: | Satisfied by AVT 241,242,243; ACC 121; BUS 121,130,160,185; ECO 201-202; GEO 105; PSY 101-102,109,208; HUM 121-122-123; LIT 115,201-202,211-212, HSE 100,105,107, or 108 | 3 |
| | TOTAL REQUIRED HOURS | 67 |

*Recommended for students planning to transfer
**MAT 121, College Algebra, recommended for students planning to transfer

# AVIATION TECHNOLOGY
## Suggested Course Outline
## Revised 04/01/91

| FALL SEMESTER (1st Year) | | Credits |
|---|---|---|
| AVT 101 | Private Pilot Ground School | 4 |
| AVT 102 | Aviation Meteorology Ground School | 4 |
| AVT 111 | Introduction to Aircraft Systems I (GS) | 2 |
| AVT 121 | Private Pilot Flight - Phase I | 1 |
| AVT 122 | Private Pilot Flight - Phase II | 1 |
| ENG 121 | English Composition I | 3 |
| PSY 100 | Personal Growth for Success in College | 2 |
| | (A developmental math course if advised) | - |
| | | 17 |

| SPRING SEMESTER (1st Year) | | |
|---|---|---|
| AVT 112 | Introduction to Aircraft Systesm II (GS) | 2 |
| AVT 103 | Mountain Flying Ground School | 1 |
| AVT 123 | Private Pilot Flight - Phase III | 1 |
| AVT 131 | High Performance Aircraft Flight - Phase IV | 1 |
| AVT 132 | Mountain Flying/TCA's - Flight - Phase V | 1 |
| AVT 133 | Advanced Cross-Country and Night Flight Phase VI | 1 |
| ENG 122 | English Composition II | |
| or | | |
| 126 | Technical Writing | 3 |
| SPC 115 | Principles of Speech Communications | 3 |
| MAT 121 | College Algebra | 3-4 |
| or | | |
| PEC ___ | (Elect Type) Physical Education Activity | 1 |
| | | 17-18 |

| FALL SEMESTER (2nd Year) | | |
|---|---|---|
| AVT 201 | Commercial Ground School | 3 |
| AVT 202 | Instrument Theory Ground School | 3 |
| AVT 211 | Fundamentals of Instruction Ground Sch. | 2 |
| AVT 221 | Instrument Flight - Phase VII | 1 |
| AVT 222 | Instrument Flight - Phase VIII | 1 |
| AVT 223 | Instrument Flight - Phase IX | 1 |
| PHY 105 | Conceptual Physics | 4 |
| COS 105 | Computer Applications | 3 |
| | | 18 |

| SPRING SEMESTER (2nd Year) | | |
|---|---|---|
| AVT 212 | Flight Instructor Ground School ) Com- | 2 |
| AVT 213 | Instrument Instructor Ground Sch.) bined | 2 |
| AVT 203 | Twin-Engine Aircraft Ground School | 1 |
| | Elective | 3 |
| | Social Behavioral Science | 3 |
| AVT 205 | Cockpit Resource Management (GS) | 1 |
| AVT 231 | Commercial Pilot Flight- Phase X | 1 |
| AVT 232 | Commercial Pilot Flight - Phase XI | 1 |
| AVT 233 | Commercial Pilot Flight - Phase XII | 1 |
| | | 15 |
| | TOTAL CREDITS | 67-69 |

SUMMER SEMESTER (2nd Year) - All post graduate work only

| | | |
|---|---|---|
| AVT 241 | Flight Instructor Flight Phase XIII | 1 |
| AVT 242 | Instrument Flight Instructor Flight | 1 |
| AVT 243 | Twin-Engine Aircraft Flight | 1 |

OTHER

| | | |
|---|---|---|
| AVT 235 | Aviation Refresher-Anytime offered | 1 |
| AVT 125 | Stand-By Pilot Course - Flight - Anytime offered | 1 |
| AVT 206 | Survival Techniques - Aviation Anytime offered | 1 |
| AVT 204 | Airline Transport Pilot (GS) - Post Grad | 3 |
| AVT 244 | Airline Transport Pilot - Flight - Anytime offered | 2 |

## RECOMMENDATIONS FOR FLIGHT DEPARTMENT IN ACCORDANCE WITH FIVE YEAR PLAN

### FACILITIES

1st Year

I. Establish a simulator lab and self study library in existing rooms adjoining larger hangar.
   - A. Remodel rooms. Approximately $6000.00
     1. One room for simulator lab
     2. One room for self study/tutorial/film library
        - a. Put in false ceilings
        - b. Light fixtures/outlets
        - c. Common door between rooms
   - B. Refurbish rooms. Approximately $5,000.00
     1. Tables for computers/and two computers
     2. Desks for students.
     3. TV for film library
     4. Miscellaneous items for support
   - C. Purchase twin engine simulator. Approximately $100,000.00
     1. Necessary for support of multi-engine and proposed new ATP post graduate programs
     2. Necessary for proposed simulator lab

1st or 2nd Year

II. Remodel downstairs level in Hayes Bldg. at Airport. Approximately $1500.00
   - A. Enclose existing areas for additional flight instructor office space
     1. Needed to put flight instructors in nice office area and out of County storeroom areas
        - a. Partitions for office spaces
        - b. Doors for new offices
        - c. Windows for new offices
        - d. Paint
        - e. Miscellaneous items for refinishing

5th Year

III. Add on to existing hangar for more class room

## RECOMMENDATIONS FOR FLIGHT DEPARTMENT IN ACCORDANCE WITH FIVE YEAR PLAN

### PROGRAMS

#### 1st Year

I. Special needs and out of sequence training programs
   - A. Two nights a week special tutoring for students at new training facilities in hangar
     1. Needed to expedite students into main stream training for normal graduation times
   - B. On-duty instructor for night classes
     1. One instructor should rotate among students for on-demand tutoring

II. Multi Engine Program
   - A. Needed to make use of existing equipment and prepare for ATP post grad program. Needed for attractive draw for new students
     1. Make multi engine ground school mandatory for graduation
        - a. Builds pool for multi-engine flight stuents for last summer
        - b. With new syllabus progress, the cost of summer semester for students should be open for multi-engine or CFII training
   - B. Must have twin engine simulator for success

#### 2nd Year

I. ATP post graduate flight training
   - A. A draw for alumni and students ready to escalate into the most advanced phase of flying.
     1. ATP ground school. 8 week ground to prepare for the FAA written
     2. ATP twin simulator training
        - a. Crew coordination
        - b. Procedures
        - c. Extensive instrument training
     3. ATP flight training
        - a. Twin engine flight training to prepare for FAA check ride
     4. ATP students are a link to airlines

II. Aerobatic/tail wheel aircraft
   - A. Needed for student draw
     1. Needed for primary training to instill into students very basic procedures that are used throughout their careers that conventional aircraft can't do
   - B. Needed for advanced training
     1. Nothing teaches advanced maneuvers and confidence better than an aerobatic course
     2. Very popular as a student draw

PROGRAMS (Continued)

3rd to 5th Year

I. Articulation program
   A. To train ATP post graduate students for entry level airline positions.
   B. To train new hires for the airlines to the individual airlines specs.

## RECOMMENDATIONS FOR FLIGHT DEPARTMENT IN ACCORDANCE WITH FIVE YEAR PLAN

### PERSONNEL

### 1st Year

I. Dispatch
   A. Needed for continuation of an essential part of of the new program for keeping students on track for normal graduation
   B. 3rd mechanic
      1. Essential to the continuation of quality and safe maintenance and proper and efficient rotation of 100 hour inspections and preventive maintenance to our fleet of aircraft
   C. With the progress of the new system the track of student progress will close with the student taking advanced training during his/her last summer semester (CFI, CFII, Multi-Engine)
      1. The part time instructors cannot give advanced training until they have two years experience. Our part time instructors have only one year experience at this junction.
      2. With more students in advanced training two senior instructors cannot accommodate the students.
   3. Four senior instructors are needed for the summer semester to accommodate all the student needs.

### 2nd Year to 5th Year

I. Instructors and mechanics in proportion to the student population.
   A. 85-100 students: 4/5 mechanics; 12 part time instructors.
   65-75 students; 4 mechanics; 10 part time instructors.
   55-65 students; 3 mechanics; 6/9 part time instructors.

## RECOMMENDATIONS FOR AVIATION TECHNOLOGY

### AIRCRAFT

#### 1st Year

I. Refurbishing for existing aircraft
   - A. Repainting of aircraft. Approximately $3800 each
     1. Rotate each summer for painting
   - B. Parts collection for diminishing parts
     1. Start inventory on hard to get parts
   - C. Upgrade 1325V and 736XN to 2,000 hour engine KB exchange, $24,000.00

#### 2nd Year to 3rd Year

I. Upgrade of radio equipment
   - A. Rotate aircraft for upgrade every summer (HSI, ADF, DME) till complete
   - B. Upgrade interior on a summer rotation
   - C. Spare engine for XP and for RG's, $40,000.00

#### 5th Year

I. Replacement of aircraft at 10-15,000 hours
   - A. Replacement type and cost
   - B. Part support

## RECOMMENDED COST FOR AVIATION PROGRAM

The different hourly rates represent the averaged rates of different aircraft.

**1st Year**

| Fall | Spring |
|---|---|
| 42 hr. dual x $45 | 12 hr. dual x $47 |
| 20 hr. solo x $35 | 50 hr. solo x $36 |
| 62 total hrs. = $2590 | 62 total hrs. = $2360 |

Summer
Reserved for off track and make-up students. Pay for projected flight on an individual basis.

**2nd Year**

| Fall | Spring |
|---|---|
| 52 hr. dual x $46 | 44 hr. dual x $48 |
| 12 hr. solo x $35 | 18 hr. solo x $38 |
| 64 total hrs. = $2810 | 62 total hrs. = $2796 |

Summer
Reserved for off track and make up students. Pay for projected flight on an individual basis.

Estimated totals of flight cost for a student who stays on track for four semesters, (includes medical exams, written test fees, and flight test fees)

$11,241 total

With new simulator: Add $300 then subtract $675.00

$10,866 total

# Vice President's Response to the Aviation Technology Program Review

**May, 1991**

**Carlton R. Williams**

## Overview

Since 1968-1969, the activities of the Aviation Technology Program have been vital components of CNCC's educational enterprise and of the culture on the Rangely Campus. Graduates of this Associate of Applied Science Degree program are now pursuing active careers in many facets of the aviation world. In spite of Rangely's geographic isolation, the Program is well known in aviation circles.

## Strengths

The Program's strengths are substantial. For over twenty years, Aviation Technology has averaged attracting 65 - 75 full-time students per annum to the Rangely Campus. It has graduated on the average of 14 - 15 students per year. As a result of valiant efforts in 1989-1990 to get a number of hold-overs completed, that number rose to 23. The Program's graduates are valued and respected in the industry. Moreover, in addition to steadily providing capable commercial pilots to the industry, through the years it has also performed a strong community service function. It has enabled many citizens of the CNCC Service Area to acquire, close to home in an isolated area, their private pilot's licenses.

In still other ways, the Program demonstrates it's positive qualities. The Aviation Technology Associate of Applied Science Degree utilizes 25 - 28 credits of general education; thus, with the number of students involved, the Program strongly supports the arts and sciences transfer programs. Moreover, unlike many Associate of Applied Science degrees, the A.A.S. in Aviation Technology articulates well into Bachelor of Science degrees in Aviation at Metropolitan State College and elsewhere. The senior faculty of the Program are all veteran pilots; collectively, they bring to the training of the CNCC flight student many years of experience flying in varied settings of the aviation enterprise. The area's mountain terrain and the Program's college-owned and meticulously maintained aircraft combine to afford one of the most challenging yet one of the safest environments available for pursuing a commercial pilot's license.

The Program presents a tremendous financial bargain to the aspiring pilot. Substantially lower costs than commercial flight schools charge, combined with multiple and generous sources of financial aid make it possible for many students to acquire this training at CNCC who could not otherwise afford it. And while this Program is expensive to operate--it will always have to be subsidized with District funds--it generates through it's own auxiliary earnings from 40% to 50% of it's substantial budget annually.

Thus, the Aviation Technology Program at CNCC presents a quality image: a cost-conscious opportunity for commercial flight training; presented by experienced pilot-instructors; conducted in well maintained, safe aircraft; leading to a collegiate associate

degree which is respected/accepted by senior colleges; measuring up to rigorous FAA standards; respected by the aviation industry; and contributing substantially to the critical mass of students on the Rangely Campus who make it possible for CNCC to be a comprehensive community college.

## Weaknesses

In spite of the Program's strengths outlined above, it has also, until recently, demonstrated some serious weaknesses. Many of these have been inherent in the Program's operations for many years. Fortunately, in recent months, many of these have been successfully addressed and the problems have been solved. Others are addressed by the Program Review's further recommendations.

| | Weaknesses Until Recently | Solutions Applied |
|---|---|---|
| 1. | Many students entering with inadequate finance; taking three years to complete; or never completing. | Beginning in fall of 1989, all entering students have shown financial ability to complete; have advanced flight fees for the entire semester at a time. Three-year hold-overs now almost eliminated. |
| 2. | Prior to 1990-1991, Program has never had the resources to keep all enrolled full-time students flying at projected pace to complete in two years. | As of 1990-1991, every student enrolled is assured all flight time needed to keep pace with the projected learning curve. |
| 3. | Students were frequently "bumped" from the schedule in favor of other priority uses of aircraft; frustration of students at peak flight periods produced bad PR for Program. | As of 1990-1991, the new Dispatch System assures every student the aircraft needed as many times a week as needed to keep pace with the projected training curve. |
| 4. | The traditional pairing of each new student with one inexperienced flight instructor for the early phases of training frequently produced dissatisfaction with progress being made. | As of 1990-1991, the team teaching approach assures weekly checks on every student's progress; assures that a senior instructor takes periodic turns with every student. |

| | | |
|---|---|---|
| 5. | Accelerated flying at peak periods to catch up on lost time often brought maintenance crisis--several aircraft on the ground--slowing down the flying when it was needed the most. | As of 1990-1991, the new Dispatch System assures that aircraft are going to the hanger for maintenance on schedule and returning to flight duty on schedule. The addition of a third mechanic also helps to assure that adequate aircraft are always available for the number of students who need to fly. |
| 6. | Traditional patterns of advising to keep students eligible for financial aid led to great gaps between ground schools and flight phases and produced massive numbers of <u>incompletes</u> in flight courses. | As of 1990-1991, the emerging new training manual has laid out the flight phases more clearly. Flight courses have been refined to correspond to flight training phases. No student is now enrolled in a flight course unless there is reasonable prospect of completing it that term. |
| 7. | The former open entry/open exit pattern of taking new students in at all points during academic year involved inefficient use of faculty and created a nightmare for monitoring student progress--produced poor correlation between ground schools and flight phases. | As of 1990-1991, students enter the ground school sequence in fall semester only. Out-of-step students, pursue ground school training in self-paced learning lab and weekly tutorials. These bring students into mainstream. The team teaching approach assures weekly checks of student progress. |
| 8. | The curriculum not as fully refined as need be to produce the most effective transfer mesh with Metro State. | During the 1989-1990, 1990-1991, the curriculum has been refined to provide two optional tracks; one for students planning to enter work force with A.A.S.; another for students planning to pursue bachelor's degree. |
| 9. | Program Director overloaded and overworked. Management not fully effective. | As of 1990-1991, change in Program Director assignment. Better distribution of workload and responsibilities. Enhanced team approach is producing improved program planning and implementation. |

## Recommendations

The remaining weaknesses of the Program are minor. These are addressed by the suggestions for improvement presented by the Program Review. With full consideration of these suggestions, I make the following recommendations for the Program's further enhancement.

1. That a specific program articulation agreement be worked out with Metropolitan State College and one or two other senior colleges with aviation departments. (The curricular refinements have been made; lacking are simply the formal agreements.)

2. That a self-paced learning lab and a simulator lab be remodeled into the auxiliary hanger.

3. That the self-paced learning lab be regularly available to students and their flight instructors where learning reinforcement is needed at any time along the way. That the lab and an auxiliary evening tutorial one night a week be used to educate students in the ground courses when they enter out of step with the curriculum, when citizens in the area wish to acquire their private pilot's licenses, and when Aviation Maintenance Technology students wish to acquire their private pilot's licenses parallel to completing their certificate or degree work in Aviation Maintenance Technology.

4. That a twin-seat simulator be acquired as soon as possible for the enhancement and further upgrade of the Program. That the new simulator lab be used to build in up to 40 hours of simulator time in each student's 250-hour training curve (both enhancing his/her training and cutting the overall cost of his/her training by $600.00). That the simulator lab be used to develop and implement significant training during the summers for the Multi-Engine Rating (needed by the beginning aviator to acquire most commercial flying jobs) and the Airline Transport Pilot (ATP) Rating (highly advantageous after amassing 1,500 flight hours in smaller craft).

5. That the new Dispatch and third Aircraft Mechanic positions be regularly built into the personnel of the Program (these have been very instrumental in bringing about the solutions of the past year).

6. That, if enrollment increases again to over 55 students, additional full-time temporary Flight Instructors and additional journeyman Aircraft Mechanics be added as needed to maintain the proper ratio of students to instructors to mechanics to enable us to assure appropriate flight time to all students for completing the Program in two years.

7. That, as the new summer activities expand sufficiently to warrant it (finishing the CFI's, CFII training, auxiliary Private Pilot training, Multi-Engine training, ATP training), the third and fourth senior faculty members be placed upon eleven-month contracts.

8. That an aerobatic/tail wheel aircraft be acquired for the Program (needed to strengthen basic procedures training, enhance advanced maneuvers training, and enable our students to enter collegiate competitive flying). To help with both this acquisition and the purchase of simulators for the simulator lab, current lease holds on aircraft could be eliminated, allowing these budgeted funds to be re-appropriated to these ends.

9. That our current aircraft be refurbished by an established schedule, bringing to each in turn as needed a paint job, an upgrade in radio equipment, and an upgrade to 2,000-hour engines. That in the fifth year, we begin replacing the aircraft which have served us for $10,000 - 15,000 hours.

10. That during 1991-1992, strong efforts be made to bring representatives from the industry to the Rangely Campus to see what we are accomplishing in both aviation programs. That these contacts be utilized to enhance our marketing of both programs. That, growing out of these contacts, further discussions be held toward developing a special feeder relationship with one or more commuter or freight airlines. That, growing out of these contacts, a new, enlarged, and more vital Advisory Council be organized for both aviation programs (with subcommittees for each) which will meet once or twice a year.

## Program Status

With the improvements which have been brought about in Aviation Technology over the last two years, I am convinced that the Program is in the best condition that it has presented in many years. Morale is higher among faculty/staff; an effective team approach is the order of every day. Satisfaction is infinitely higher among the students; there has not been a single significant complaint to the Vice President's or President's offices throughout 1990-1991; word-of-mouth public relations appears to be overwhelmingly positive; applications are up a full 26% over this time last year. Problems which have plagued the Program from it's early days have been solved. It is my pleasure, therefore, to recommend that we declare the Aviation Technology Program as having a satisfactory status. This denotes that it will not require formal review again until the year 1995-1996.

A special word of thanks to the Director, faculty, and staff of the Program for the unique and effective team approach they have followed in recent months to bring about substantial improvements in the Program. And my sincere appreciation to the members of the Review Committee who, in spite of getting a late start due to changes in leadership of the Program, have produced a useful and productive Program Review.



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